



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,475	09/02/2008	Livne Gan	P-9915-US	4331
49443 7590 09/29/2010 Pearl Cohen Zedek Latzer, LLP 1500 Broadway 12th Floor New York, NY 10036				
EXAMINER				
TON, TRI T				
ART UNIT		PAPER NUMBER		
2877				
MAIL DATE		DELIVERY MODE		
09/29/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/580,475

**Applicant(s)**

GAN, LIVNE

**Examiner**

TRI T. TON

**Art Unit**

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 September 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-34 and 37 is/are rejected.  
7) ☐ Claim(s) 35-36 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 24 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date 05/24/07 and 02/08/07  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statements (IDS) submitted on 05/24/07 and 02/08/07 have been entered. The submission is in compliance with the provisions of 37 CFR 1.97.

Accordingly, the information disclosure statement is being considered by the examiner.

### ***Oath/Declaration***

2. The Oath and Declaration filed on 09/02/2008 is acceptable.

### ***Drawings***

3. The drawings filed on 05/24/2006. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are drawn to a method for identification of a changed state of a fluid with respect to a reference state of said fluid. The method is not a physical thing nor a process as they are not "acts" being performed. The method is only abstract instructions. As such, these claims

are not directed to one of the statutory categories of invention (See MPEP 2106.01), but are directed to nonstatutory functional descriptive material.

It is noted that method for identification of a changed state of a fluid with respect to a reference state of said fluid, which would permit the functionality of the program to be realized, would be directed to a product and be within a statutory category of invention.

In other words, the method needs a physical transform would permit the functionality of the program to be realized, and the method needs to tide to an apparatus to transform the steps “comparing ... to identify”.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-15, 18-34, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karny et al. (U.S. Patent No. 4,569,590) in view of Anderson et al. (Automated Detector for Liquid Chromatography. September 1976, IBM). Hereafter, “Karny” and “Anderson”.

Regarding Claim 1, Karny teaches

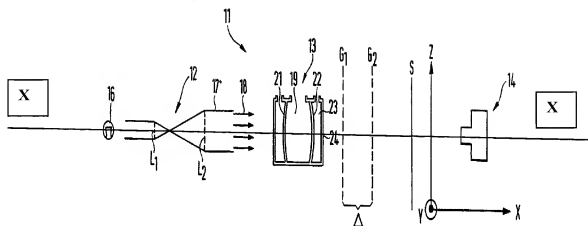
a) providing an optical arrangement including a transparent enclosure (figure 1, element 13. Column 3, lines 1-2) with at least a portion of said fluid (column 3, lines 19-23), and an object observable through said optical arrangement (column 2, lines 61-63. Column 3, lines 17-23), the arrangement being designed such that an image of said object in the changed state of the

fluid (changed image) is optically distinctive from an image of said object in said reference state of fluid (reference image) due to a change of said optical parameter (column 3, lines 39-43, 59-69. Column 4, lines 1-9), (Moire pattern images of reference state and of changed state are different, and the change of index of refraction of the fluid is not different from the change of optical parameter), at least one of said reference image and said changed image being predetermined (column 3, line 29-35), (Moire pattern image of water is known and predetermined);

c) observing a current image of said object (column 3, line 69. Column 4, lines 1-9), (Moire pattern images of the object is not different from current image of the object) through said optical arrangement along an optical axis (the following figure 1, elements X-X, 14); and

d) comparing said current image with said predetermined image to identify said change in state of the fluid (column 3, lines 29-43), (the known index of refraction of water having predetermined Moire pattern image, and the sample fluid of unknown index of refraction having current Moire pattern image).

However, Karny does not teach the fluid in changed state is the same fluid in reference state, and illuminating said object with diffuse light. Anderson teaches the fluid in changed state is the same fluid in reference state (paragraph 3. Figure element 10), and illuminating said object with diffuse light (paragraph 2, line 7. Figure element 22). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Karny by having the liquid in changed state is the same liquid in reference state, and illuminating said object with diffuse light in order to detect liquid chromatography automatically, (paragraph 4).



Regarding Claim 2, Karny teaches said reference image is predetermined (column 3, lines 29-35), (Moire pattern image of water is known and predetermined).

Regarding Claims 3, 6, 22, Karny teaches all the limitations of claim 1 as stated above except for step (d) being performed by a sensor with a logical circuit. Anderson teaches a sensor with a logical circuit being used for detecting (paragraph 4). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Karny by having a sensor with a logical circuit in order to detect liquid chromatography automatically, (paragraph 4).

Regarding Claims 3-5, Karny teaches step (d) being performed by human's eye (figure 1, element S), (screen S display the detected image for step d).

Regarding Claims 7-8, 20-21, although Karny does not directly teach that light is in IR, UV or visible, it is inherent that image patterns could be provided by either one of the above lights.

Regarding Claims 9, 23, Karny teaches optical parameter is refraction index of said fluid (abstract, lines 1-4).

Regarding Claim 10, Karny teaches said enclosure constitutes a lens located at the optical axis of said optical arrangement, the lens having different optical power when filled with said fluid in the reference and in the changed states (column 3, lines 5-8).

Regarding Claims 11-13, 26-27, Karny teaches at least two gratings disposed in parallel planes spaced along said optical axis (figure 1, elements G1, G2).

Regarding Claims 14-15, 24-25, 34, 37 Karny teaches said enclosure comprises a prism located on said optical axis (column 3, lines 5-8. Figure 1, elements 21, 22), (lens is a kind of prism, and infinite focal length is not different from zero power).

Regarding Claim 18, Karny teaches

a) a transparent enclosure (figure 1, element 13. Column 3, lines 1-2) adapted to be filled with at least a portion of said fluid (column 3, lines 19-23);

b) an object observable through said enclosure (column 2, lines 61-63. Column 3, lines 17-23);

c) an optical system having an optical axis (the above figure 1, elements X-X, 14, L1, L2) and enabling the observation of said object when illuminated by light (column 3, line 69. Column 4, lines 1-9), (Moire pattern image of the object being produced for observation), via said enclosure filled with said fluid (figure 1, elements 19, 21, 22, 23, 24);

the optical arrangement being designed such that an image of said object observed in the changed state of the fluid is optically distinctive from an image of said object observed in said reference state of fluid due to a change of said optical parameter (column 3, lines 39-43, 59-69. Column 4, lines 1-9), (Moire pattern images of reference state and of changed state are different, and the change of index of refraction of the fluid is not different from the change of optical parameter), at least one of said reference image and said changed image being predetermined (column 3, line 29-35), (Moire pattern image of water is known and predetermined), so that said identification can be performed by comparing a current image of said object to the predetermined image (column 3, lines 29-43), (the known index of refraction of water having predetermined Moire pattern image, and the sample fluid of unknown index of refraction having current Moire pattern image).

However, Karny does not teach the fluid in changed state is the same fluid in reference state, and illuminating said object with diffuse light. Anderson teaches the fluid in changed state is the same fluid in reference state (paragraph 3. Figure element 10), and illuminating said object with diffuse light (paragraph 2, line 7. Figure element 22). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Karny by having



the liquid in changed state is the same liquid in reference state, and illuminating said object with diffuse light in order to detect liquid chromatography automatically, (paragraph 4).

Regarding Claim 19, Karny teaches all the limitations of claim 1 as stated above except for a source of diffuse light. Anderson teaches a source of diffuse light (paragraph 2, line 7. Figure element 22). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Karny by having a source of diffuse light in order to detect liquid chromatography efficiently, (paragraph 4).

Regarding Claim 28, although Karny does not teach that current image on the retina of the eye, it is inherent that in order to see any image, that image must be on the retina of the eye.

Regarding Claim 29, Karny teaches said optical system being adapted to form said current image on said screen (figure 1, element S).

Regarding Claims 30-33, Karny teaches a record of said predetermined image, image available to a human observer before visual identification, said record to a human observer simultaneously with said current image, and said record of predetermined image and said current image (column 3, lines 59-69. Column 4, lines 1-9)

***Allowable Subject Matter***

8. Claims 16-17, 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter: there was no prior art found by the examiner that suggested modification or combination with the cited art so as to satisfy the combination of all the limitations in claims 16, 35.

10. As claim 16, the prior art of record taken alone or in combination, fails to disclose or render obvious a method for identification of a changed state of a fluid with respect to a reference state of said fluid comprising polarization angle of said fluid also changes with the change of the state of the fluid, and said optical arrangement includes two polarization filters, one at each side of said enclosure, in combination with the rest of the limitations of claim 1.

11. As claim 35, the prior art of record taken alone or in combination, fails to disclose or render obvious an optical arrangement for identification of a changed state of a fluid with respect to a reference state of said fluid comprising polarization angle of said fluid also changes with the change of the state of the fluid, and said optical arrangement includes two polarization filters, one at each side of said enclosure, in combination with the rest of the limitations of claim 18.

***Fax/Telephone Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri T. Ton whose telephone number is (571) 272-9064. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 20, 2010  
/Tri T Ton/  
Examiner Art Unit 2877

